



## New Hope Creek Crossing Analysis of Alternatives – Comparative Analysis

Draft DEIS

Factor	No Build	LRA *	NHC LPA Alt.	NHC 1 Alt.	NHC 2 Alt.
Project Features					
Length (miles)	-	<u>11.4</u>	<u>+3.3</u>	<u>+3.6</u>	<u>+3.6</u>
Travel time (minutes)	-	<u>25:35</u>	<u>+8:44</u>	<u>+8:47</u>	<u>+9:15</u>
Stations, Vehicles, etc.	-	17 Stations, <u>16</u> Vehicles (Total Fleet), 8 Park and Ride Lots, <u>5,110</u> Park and Ride Spaces, 1 Maintenance Facility.			
Transportation					
Bus Route Connections	-	<u>60</u>	+6	+6	+6
Pedestrian & Bicycle Connections	-	<u>33</u>	+4	+3	+5
Pedestrian & Bicycle at-grade crossings	-	<u>41</u>	+12	+5	+9
Parking Spaces Impacted	-	<u>400</u>	+55	+180	+105
Land Use and Zoning					
	Not consistent with local planning efforts	Consistent with local planning efforts	MOST consistent with local planning efforts	Consistent with local planning efforts	Consistent with local planning efforts
Socio-Economic and Demographic Conditions					
Population served (2040)		<u>30,400</u>	+8,000	+8,000	+8,000
Employment served (2040)		<u>66,800</u>	+11,200	+11,200	+11,200
Socio-Economic Indicators (%)	Minority, <u>51%</u> , Below Poverty <u>32%</u> , Zero-Car Households <u>22%</u> ,LEP <u>18%</u>				
Neighborhoods and Community Resources					
	No Impact	Impacts to Community Resources (CR)	No Impact	Impacts to Community Resources (CR)	No Impact
Visual and Aesthetic Considerations					
	Low-High	Low-High	Moderate-High	Moderate-High	Moderate-High
Cultural, Historic, and Archaeological Resources					
Historic Properties Potentially Affected	TBD				
Archeological Sites requiring further investigation	-	<u>7</u>	-	-	-
Public Parkland and Recreational Areas					
Parklands (acres)	-	<u>11.6</u>	-	-	-
Recreational trails (at-grade crossings)	-	<u>0</u>	-	-	-

\*LRA consists of common alignment segments that are outside the various alternatives. Underlining indicates data that is subject to change due to alignment refinement.



## New Hope Creek Crossing Analysis of Alternatives – Comparative Analysis

Draft DEIS

Factor	No Build	LRA *	NHC LPA Alt.	NHC 1 Alt.	NHC 2 Alt.
Natural Resources					
Biotic Resources Total (acres)	-	<u>230</u>	+28	+29	+28
Bottomland	-	0	+4	+2	+3
Alluvial	-	3	-	-	-
Mesic Mixed	-	66	+5	+5	+8
Maintained/Disturbed	-	<u>161</u>	+19	+22	+17
Protected Species	-	0	-	-	-
Water Resources					
Stream Impacts (linear feet)	-	<u>1,693</u>	+221	-	+210
Riparian Zone 1 (sq. ft.) (acres)	-	<u>122,036 (2.8)</u>	+19,611 (0.5)	+2,995 (0.1)	+17,046 (0.4)
Riparian Zone 2 (sq. ft.) (acres)	-	<u>95,250 (2.2)</u>	+24,642 (0.6)	+1,449 (0.1)	+19,559 (0.4)
Wetland Impacts (#/acres)	-	<u>2 (0.09)</u>	4 (0.01)	2 (0.01)	3 (0.01)
Pond Impacts (#/acres)	-	<u>0 (0.0)</u>	0 (0.0)	0 (0.0)	0 (0.0)
Floodplain Impacts (100-Year) (acres)	-	<u>5.7</u>	+0.2	+0.6	+0.1
Floodway Impacts (acres)	-	<u>0.7</u>	+0.3	+0.2	+0.2
Air Quality					
	All modeled concentrations are below the National Ambient Air Quality Standards (NAAQS)				
Noise and Vibration					
Noise Impacts	-	<u>5</u>	-	-	-
Vibration Impacts	-	<u>25</u>	+2	+2	+4
Hazardous, Contaminated, and Regulated Materials					
High Risk Sites	-	<u>37</u>	-	+3	+3
Medium Risk Sites	-	<u>76</u>	-	+3	+1
Acquisitions, Relocations, and Displacements					
Full Acquisitions and Displacements	-	<u>45</u>	+7	+7	+7
Partial Acquisitions	-	<u>105</u>	+8	+12	+10
Other Displacements	-	<u>13</u>	+1	-	-

\*LRA consists of common alignment segments that are outside the various alternatives. Underlining indicates data that is subject to change due to alignment refinement.



## New Hope Creek Crossing Analysis of Alternatives – Incremental Analysis

Draft DEIS

Factor	Ridership		Incremental additional ridership by alternative		
	No Build	Low Ridership alternatives*	NHC LPA Alt.	NHC 1 Alt.	NHC 2 Alt.
<b>Transportation</b> Light Rail Transit Ridership (2040 weekday)	-	<u>23,560</u>	<u>+220</u>	<u>+390</u>	-

\* “Low Ridership alternatives” consists of the combination of alternatives that have the lowest projected ridership – common segments and the C1A, NHC 1, and Duke Eye Care Center Station alternatives.

Factor	Ridership		Incremental reduced energy use by alternative		
	No Build	High Energy Use alternatives*	NHC LPA Alt.	NHC 1 Alt.	NHC 2 Alt.
<b>Energy Use</b> Reduction in Annual Energy Use (billions, BTU)	<u>137,049</u>	<u>136,978</u>	<u>-21</u>	-	<u>-21</u>

\* “Low Energy Use alternatives” consists of the combination of alternatives that have the highest projected energy use – common segments and the C1A, NHC 1, and Duke Eye Care Center Station alternatives.

Factor	Ridership		Incremental additional capital costs by alternative		
	No Build	Low Capital Cost alternatives*	NHC LPA Alt.	NHC 1 Alt.	NHC 2 Alt.
<b>Capital Cost</b> Light Rail Capital Costs (2015 \$) (millions)	-	<u>\$1,522</u>	-	<u>+\$16.3</u>	<u>+\$3.4</u>

\* “Low Capital Cost alternatives” consists of the combination of alternatives that have the lowest projected capital costs – common segments and the C2, NHC LPA, and either Duke/VA Medical Centers Station alternatives.

Factor	Ridership		Incremental additional operating costs by alternative		
	No Build	Low Op Cost alternatives*	NHC LPA Alt.	NHC 1 Alt.	NHC 2 Alt.
<b>Operating Cost</b> Annual Light Rail Operating and Maintenance Costs (2014 \$) (thousands)	--	<u>\$16,846</u>	-	<u>+\$180.1</u>	<u>+\$75.6</u>

\* “Low Op Cost alternatives” consists of the combination of alternatives that have the lowest projected operating costs – common segments and the C1, NHC LPA, and either Duke/VA Medical Centers station alternatives.

Underlining indicates data that is subject to change due to alignment refinement.